LineUp With Math™ Alignment
Mathematics Grade Expectations

Standard 7.6: Arithmetic, Number, and Operation Concepts

Grade Expectations	***LineUp With Math™* Activities**
M6: 1 Demonstrates conceptual understanding of rational numbers with respect to ratios (comparison of two whole numbers by division *a/b, a : b, and a ÷ b , where b ≠ 0*); and rates (e.g., *a* out of *b*, 25%) **using models, explanations, or other representations.*** **Demonstrates conceptual understanding of proportional reasoning**, and fluently moves between equivalent representations of commonly used fractions and decimals. M(N&O)-6-1	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control. --Use percent relationships to resolve distance, rate, time conflicts in air traffic control.
M6: 7 Estimates and evaluates the reasonableness of solutions appropriate to grade level.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

Standard 7.7: Geometry and Measurement Concepts

Grade Expectations	***LineUp With Math™* Activities**
M6: 15 Measures and uses units of measures appropriately and consistently, and makes conversions within systems when solving problems across the content strands. (Benchmarks in Appendix B.) M(G&M)-6-7	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

Standard 7.8: Functions and Algebra Concepts

Grade Expectations	***LineUp With Math™* Activities**
M6: 20 Demonstrates conceptual understanding of linear relationships ($y = kx$; $y = mx + b$) **as a constant rate of change** by constructing or interpreting graphs of real occurrences and describing the slope of linear relationships (faster, slower, greater, or smaller) in a variety of problem situations; **and describes how change in the value of one variable relates to change in the value of a second variable** in problem situations with constant rates of change. M(F&A)–6–2	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control. --Use an interactive simulator to identify distance, rate, time conflicts in air traffic control problems and resolve the conflicts by varying plane speeds or changing plane routes.

Standard 2.5: Mathematical Dimensions, Standard 7.10: Mathematical Problem Solving and Reasoning - Applications	
Grade Expectations **M6: 30 Demonstrate understanding of mathematical problem solving and communication through:** • **Approach & Reasoning**—The reasoning, strategies, and skills used to solve the problem; • **Connections**—Demonstration of observations, applications, extensions, and generalizations; • **Solution**—All of the work that was done to solve the problem, including the answer; • **Mathematical Language**—The use of mathematical language in communicating the solution; • **Mathematical Representation**—The use of mathematical representation to communicate the solution; and • **Documentation**—Presentation of the solution.	***LineUp With Math™* Activities** --Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios. --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts. --Explore and apply a variety of strategies to optimize the solution of air traffic control conflicts.